We claim:

1.   A system for detecting and communicating the position of a pusher assembly on a shelf, comprising:

a sensor assembly configured to detect the position of the pusher assembly, the sensor assembly configured to transmit a code representative of the position of the pusher assembly for further processing.

2.   The system of claim 1, further comprising a processing device configured to receive the transmitted code.

3.   The system of claim 2, wherein the transmission between the sensor assembly and the processing device is wireless.

4.   The system of claim 2, wherein the transmission between the sensor assembly and the processing device is over a network.

5.   The system of claim 1, further comprising an indicia strip containing a pattern of bits, wherein the sensor assembly is configured to scan the indicia strip and determine the code based on the pattern of bits scanned.

6.   The system of claim 1, wherein the sensor assembly comprises an optical sensor.

7.   The system of claim 1, wherein the sensor assembly comprises a capacitive proximity sensor.

8.   The system of claim 1, wherein the sensor assembly comprises a magnetic proximity sensor.

9.   The system of claim 1, wherein the sensor assembly comprises a inductive proximity sensor.

10.   The system of claim 1, wherein the sensor assembly comprises a transmitter and a receiver, the transmitter configured to send a signal to the receiver, the sensor assembly further comprising a timing device, wherein the timing device is used to measure the time for the signal to travel from the transmitter to the receiver.

11.   The system of claim 1, wherein the sensor assembly comprises a transmitter/receiver, a radio frequency identifying transponder, and a timing device, the transmitter/receiver configured to transmit an activation signal to the radio frequency identifying transponder, the transmitter/receiver further configured to receive a responsive signal from the radio frequency identifying transponder in response to the activation signal, and the timing device configured to measure the delay between the transmitting of the activation signal and the receiving of the responsive signal.

12.   The system of claim 2, wherein the processing device receives updated codes in real time.

13.   A system for determining the relative location of a pusher assembly from the front of a shelf, comprising:
      an indicia strip configured to provide data regarding the position of the pusher assembly;
      a sensor connected to the pusher assembly, the sensor configured to scan the indicia strip; and
      a controller for activating the sensor and for processing the data scanned by the sensor, wherein the data scanned can be used to determine the position of the pusher assembly.

14.   The system of claim 13, wherein the indicia is associated with a self-coiling sheet.

15.   The system of claim 13, wherein the controller is configured to provide data from the sensor to a store computer.

16.   The system of claim 15, wherein the controller provides data to the computer via a wireless signal.

17.   A system for inventory management on a shelf, including a pusher assembly on the shelf, comprising:

an indicia strip configured to provide a representation reflecting the position of the pusher assembly on the shelf;

a sensor assembly configured to transmit a pusher code, the pusher code based on the representation on the indicia strip; and

a store computer configured to receive the pusher code from the sensor assembly.

18.   The system of claim 17, wherein the sensor assembly transmits the pusher code wirelessly.

19.   The system of claim 17, wherein the indicia strip is associated with a self coiling sheet.

20.   The system of claim 19, where the indicia strip comprises a Gray Code pattern.

21.   A system for aiding in the prevention of theft of inventory, comprising:

a sensor assembly associated with a pusher assembly for transmitting data relating to the movement of the pusher assembly; and

a store computer configured to receive the data and to transmit a signal in response to the data.

22.   The system of claim 21, further comprising a security camera configured to respond to the signal, the response including the focusing in the direction of the sensor assembly.

23.   The system of claim 22, wherein the store computer is further configured to provide a notification that a deviation in the typical movement of the pusher assembly has occurred.

24.   The system of claim 23, where the notification is sent to in-store security personnel.

25.   The system of claim 21, wherein the sensor assembly monitors the position of the pusher in real time.

26.   A system for inventory management, comprising:
an indicia strip configured to provide a representation in a pattern reflecting a position of a pusher assembly;
a sensor assembly configured to scan and transmit a pusher code based on the representation contained on the indicia strip;
an access point configured to receive the pusher code from the sensor assembly and to transmit a signal;
a central access point configured to received the signal; and
a store computer configured to process the signal received by the central access point.

27.   The system of claim 26, wherein the sensor assembly transmits the pusher code in a wireless manner.

28.   The system of claim 26, where the representation on the indicia strip is stored in Gray Code.

29.   The system of claim 26, wherein the indicia strip is configured so that the representation is reflective of not more than four regions.

30.   The system of claim 26, wherein the indicia strip is configured so that the representation is reflective of not more than ten regions

31.   A inventory management system for a facing on a shelf, comprising:

a sensor assembly configured for automatic determination of the amount of inventory in a facing; the sensor assembly configured to transmit data regarding the position of a pusher assembly; and

a store computer configured to receive and process data from the sensor assembly.

32.   The system of claim 31, wherein the sensor transmits the data in a wireless manner.

33.   The system of claim 31, wherein the sensor assembly is mounted to the pusher assembly.

34.   A system for sensing the removal of a product from a shelf, comprising:

a pusher assembly mounted to the shelf;

an indicia strip configured to provide a representation reflecting the position of the pusher assembly;

a sensor associated with the pusher assembly, the sensor configured to scan the indicia strip; and

a controller configured to measure the position of the pusher assembly via the sensor, the controller being responsive to movement of the pusher assembly.

35.   The system of claim 34, wherein the indicia strip is not more then six bits wide.

36.   The system of claim 34, wherein the indicia strip is not more then two bits wide.

37.   The system of claim 34, wherein the controller is further configured to provide notification that a deviation in amount of product typically removed from the shelf has occurred.

38.   An inventory management system for a product on a shelf, comprising:

a sensor assembly for sensing the removal of the product on the shelf, the sensor assembly configured to transmit data regarding the removal of the product; and

a store computer configured to receive data regarding the removal of product

39.   The system of claim 38, wherein the data includes pusher code related to the relative position of a pusher assembly relative to the front of the shelf.

40.   The system of claim 38, wherein the store computer determines the amount of product removed based on a comparison of distance a pusher assembly moves to the dimension of the product being removed from the shelf.

41.   An inventory management system for a store, comprising:

a sensor assembly configured to automatically provide data regarding inventory in a facing on a shelf; and

a store computer configured to receive the data from the sensor assembly, wherein the store computer is configured to determine the level of inventory in response to the data provided by the sensor assembly.

42.   The inventory management system of claim 41, wherein the data is provided to the store computer over a network.

43.   The inventory management system of claim 41, wherein the sensor assembly comprises an optical scanner.

44.   The inventory management system of claim 41, wherein the sensor assembly and the store computer are configured for two-way communication and the sensor provides data in response to a query from the store computer.

45.   A system for automatic ordering of a product, comprising:

a pusher assembly configured to move the product toward a front side of a shelf;

a sensor assembly configured to sense the position of the pusher assembly and transmit a signal regarding the position of the pusher; and

a store computer configured to receive the signal and to order additional inventory in response to the signal.

46.   The system of claim 45, wherein the store computer determines the level of the product remaining on the shelf based on the signal received from the sensor assembly.

47.   The system of claim 45, wherein the sensor assembly transmits the signal in a wireless manner.

48.   A system for use in determining the amount of product on a shelf, comprising:

a pusher assembly, the pusher assembly including a pusher and a coiled spring;

an indicia strip mounted on the coiled spring, the indicia strip containing at least two representations, the representations associated with the position of the pusher;

a sensor assembly configured to scan the indicia strip, the sensor assembly including an optical sensor and a controller, the controller being configured to operate the optical sensor so as to obtain a data reflecting the representation scanned by the sensor, wherein the

sensor assembly is configured to transmit a pusher code related to the scanned representation for further processing by a processing device; and

a power source for powering the sensor assembly.

49.   The system of claim 48, wherein the sensor assembly further comprises a receiver, the sensor assembly being configured to transmit a pusher code in response to a query.